DESCRIPTION

OF THE

MODELS OF HOSPITALS.

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International Exhibition of 1876.

HOSPITAL

OF

Medical Department, United States Army.

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MODELS OF HOSPITALS.

J. J. WOODWARD,

Assistant Surgeon, U. S. A.,

IN CHARGE OF THE REPRESENTATION OF THE MEDICAL DEPARTMENT, U. S. A.

Philadelphia, 1876.

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DESCRIPTION OF THE MODELS OF HOSPITALS.

This portion of the display of the Medical Department of the Army is intended to represent the system of hospital construction actually employed by the Medical Department in peace and war.

In time of peace, the little army of the United States, consisting of some 25,000 men, is scattered over a vast extent of territory, and distributed in about two hundred permanent or temporary posts and garrisons.

The close of the war of 1861–'5 found a portion of these posts provided with hospitals of the old style in use before the war, while in others wooden-barrack hospitals had been constructed during the war, and at others, which had just been occupied, hospitals had yet to be constructed.

In order to secure uniformity in the plan of hospital construction at the new posts, and with the view of gradually replacing the older structures by more suitable buildings, a plan for the construction of post hospitals was prepared at the Surgeon-General's Office, which was rendered authoritative by an order issued by the War Department, by Secretary E. M. Stanton, April 22, 1867. (Circular No. 4, Surgeon-General's Office, April 27, 1867.)

According to this plan, post hospitals were to be constructed with twelve, twenty four, or forty eight beds. The twenty four bed hospital

was the unit of the system. It consisted of a central administration building two stories high, with a one-storied back-building for the kitchen, and two one-storied wings as wards: each ward was to accommodate twelve beds, and was to be 33 feet long by 24 wide, inside measure; 15 feet high in the clear from floor to eaves: with ridge ventilation for summer, and shafts, like those used in the war hospitals. (*vide*, p. 11, *infra*,) for winter ventilation. The twelve-bed hospital was constructed on the same plan, except that one ward was omitted. The forty-eight-bed hospital was also to be constructed on the same plan, except that the wings were to be lengthened, making each ward 66 feet by 24 in the clear, and to contain twenty four beds each. The administration building was to remain the same in each of the three cases. These plans aimed at the extremest economy consistent with securing the application of those principles of hospital construction which experience during the war of 1861–'5 had shown to be desirable.

A number of hospitals were built in accordance with these plans, but it was thought on trial that they erred somewhat in the direction of extreme economy, and various minor alterations and improvements were suggested by the medical officers who superintended their construction and use, in consequence of which the Surgeon-General directed new and somewhat more elaborate plans to be prepared. These were approved by the Secretary of War, and issued as Circular No. 2, of the Surgeon-General's Office, July 27, 1871. This circular gave plans and specifications for three classes of hospitals:

1.—*Regulation Post Hospital of twenty-four beds*, constructed on nearly the same plan as the twenty-four-bed hospital of the former circular, but with larger apartments, with a veranda surrounding the building, and other improvements and modifications. This form of hospital is that described on the next page.

2.—*Regulation Post Hospital of twelve beds*.—This is a two-story building, with rooms for administrative purposes on the first floor and a ward of twelve beds in the second story.

3.—*Provisionary Hospitals*.—The circular also gave ground-plans for provisionary hospitals of twelve beds, one plan representing a one-story building, the other representing a two-story building with the ward in the second story.

One of these regulation post hospitals for twenty-four beds has been erected on the Exhibition grounds, for the double purpose of serving as a model to illustrate the plan of hospitals recommended by the Medical Department, and adopted by the War Department, for our military posts in time of peace, and of affording space for the greater portion of the other articles exhibited by the Medical Department.

FIG. 1.—REGULATION POST HOSPITAL FOR TWENTY-FOUR BEDS. FRONT VIEW.

THE REGULATION POST HOSPITAL FOR TWENTY FOUR BEDS.

This is a frame building, with shingle roof, surrounded by a veranda, and constructed in accordance with the plans and specifications of the circular of July 27, 1871.

Fig. 1 is a front view; Fig. 2, the floor plans.

It consists of a central administration building, 35 feet front by 39 deep, and two stories high, with a two-storied back-building 40 by 14 feet, and two wings 45 feet by 24, one for each ward of twelve beds. The floor of the whole building is raised three feet above the ground, and is well supported on timber posts. The general arrangements are shown in Fig. 2. In the plan of the ground floor, 1, 2 are the wards, each 24 ft. by 45; 3, dispensary, 14 ft. by 15; 4, office, 14 ft. by 15; 5, mess-room, 14 ft. by 20; 6, kitchen, 14 ft. by 14; 7, nurses' room, 14 ft. by 15; *a*, *b*, earth closets, each 9 ft. by 9; *c*, bath room and lavatory; *d*, *e*, closets; *f*, pantry, 8 ft. by 10. In the plan of the second story, 8 is the steward's room, 14 ft. by 15; 9, spare room, 14 ft. by 15; 10, attendants' room, 14 ft. by 19; 11, store-room, 14 ft. by 15; 12, room for violent patients, 14 ft. by 20. The above are all inside measurements. All the walls and ceilings are lathed and plastered with two coats, the finishing coat being plaster of Paris, and the entire woodwork usually painted, is covered with two coats of paint.

The wards are 15 ft. high in the clear from floor to ceiling. Ridge ventilation is provided for the summer months by means of two boxed openings in each ward, carried from the middle line of the ceiling to the ridge. These openings are 10 feet apart, and are each 10 feet long by $2\frac{1}{2}$ feet wide.

In the winter months the opening at the ridge is to be closed, and ventilation effected in the following manner: A large stove is placed in the middle of the ward. Fresh air is introduced by an air-box 18 inches square, which passes underneath the floor of the ward from side to side, open at each extremity to the external air, and opens in the centre of the ward beneath the stove by means of a register; when a ventilating stove is used, the place of the register is occupied by a pipe, which connects the air-chamber of the stove with the air-box beneath the floor.

The pipe of the stove passes up through a close-fitting collar in the ceiling. One foot above the ceiling it enters a shaft or jacket about 24 inches in diameter, which pierces the roof, and extends four feet above; it is covered with a sheet-iron cap, pierced in its turn by the stove-pipe, which is capped in the same manner. At each end of the ward, and two feet from the centre, there is an opening in the ceiling one foot square, from which an air-box passes to a box enclosing the lower

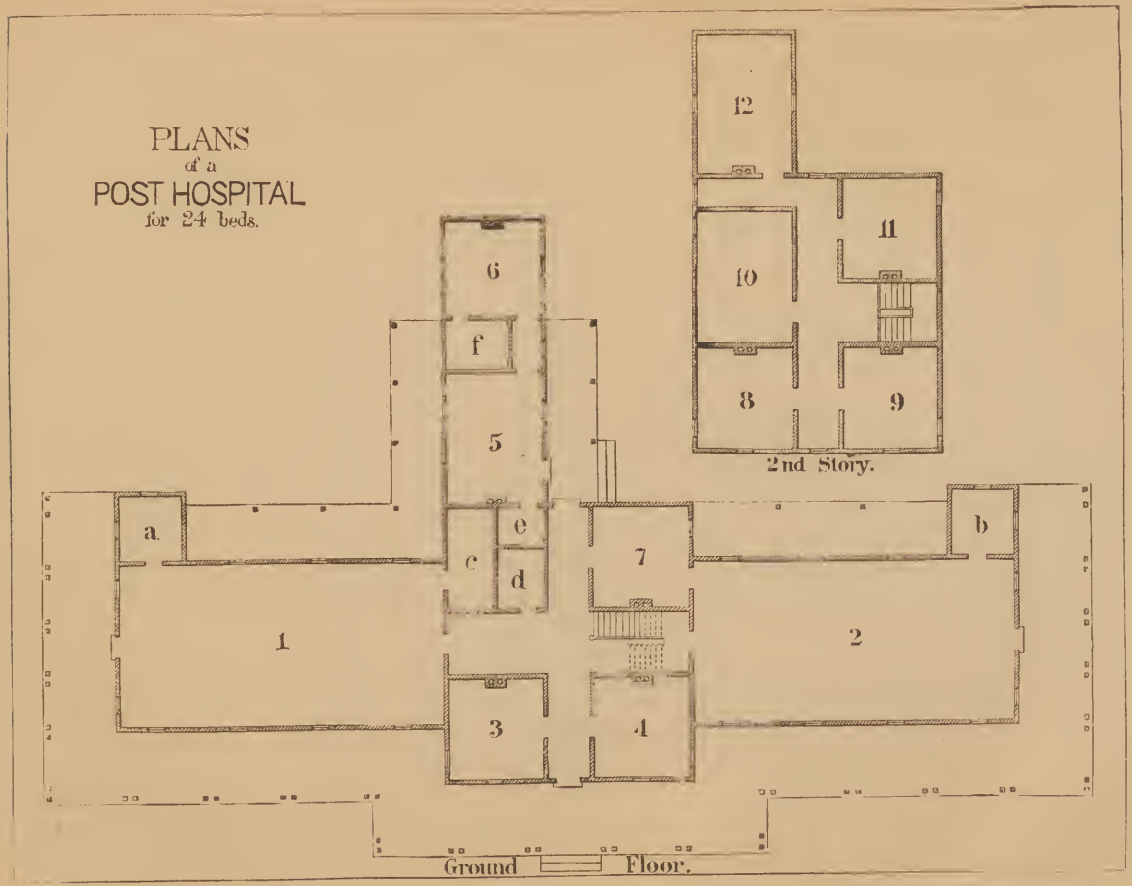


FIG. 2.—REGULATION POST HOSPITAL FOR TWENTY-FOUR BEDS. FLOOR PLANS. *(See text for description.)*

mouth of the shaft surrounding the stove-pipe. The heat of the stove-pipe causes a continuous upward current in this shaft, which is supplied by the vitiated air from the ward through the air-boxes.

In each of the earth-closets there is a ventilating shaft six inches square, and the gas-burner of the room is situated directly beneath it. These earth-closets in the regulation hospitals are intended for very sick patients only, accommodations for other patients and the attendants being provided in a suitable detached building. A small detached building is also intended to be provided for the purposes of a dead-house, and cases of small-pox and other contagious diseases are to be treated in hospital tents.

In fitting up this building for the Exhibition of 1876, the rooms numbered in Fig. 2 are occupied as follows: Room 1 is fitted up as a ward, and serves for the exhibition of hospital furniture, bedding, and clothing; room 2 serves for the exhibition of the models of hospitals, hospital steam vessels, hospital railway cars, ambulances, &c., and for specimens from the Army Medical Museum; room 3, for the exhibition of medicines, medical stores, and chemicals; room 4, for surgical instruments, books, blanks, and the publications of the Surgeon-General's Office; room 5, for mess furniture and utensils; room 6, for kitchen utensils; room 7 is the private office of the surgeon in charge, and the rooms in the second story serve for the exhibition of prothetic apparatus, litters and stretchers, medical panniers, knapsacks, &c.

The Hospital Tents.

The field hospitals of the moving armies during the war of 1861–'5 were usually constructed of hospital tents. In the most general arrangement, three hospital tents pitched end to end constituted the unit, by the repetition of which these hospitals were extended to the necessary capacity. Hospital tents were also largely used to provide additional accommodations in connection with the great general hospitals. In this case four hospital tents pitched end to end very often constituted the unit, and a wooden floor was frequently provided. The hospital tents thus used were of the regulation pattern used by the Medical Department in time of peace, and were each 15 feet by 14. Three of them have been pitched end to end in the manner used during the war in the rear of ward No. 2 of the hospital on the Exhibition grounds.

The Barrack Hospitals of the War of 1861–'5.

These are represented by five models, viz., a model of the barrack ward which served as the unit, by the repetition of which to the neces-

sary extent the "General Hospitals" were formed; and four models representing four of these general hospitals, viz: The Lincoln, Hicks, McClellan, and Mower Hospitals. All these models are exhibited in room 2 of the Post Hospital building.

1.—Model of a Barrack Ward.

This model was constructed by Mr. Charles Seltman, of Washington, D. C., and being on the scale of half-an-inch to the foot, is 7 ft. 9½ inches long. All details of framing and construction are faithfully represented, except that the roof is hinged, so as to be lifted for the inspection of the interior.

The form of ward represented is that which was finally adopted by the War Department in the summer of 1864, as set forth in the following order, which is given in full because it describes not merely the barrack ward, but also the general plan of hospital construction, particular instances of which are illustrated by the four models described below:

War Department, *July* 20, 1864.

The following instructions are promulgated for the information of officers charged with the construction of general hospitals, and will be deviated from only in cases of imperative necessity: Buildings will not be taken or occupied for hospital purposes until after full examination and approval by a medical inspector, or other officer of the Medical Corps detailed for this purpose; and all alterations will be made in accordance with plans submitted by him and approved by the Surgeon-General.

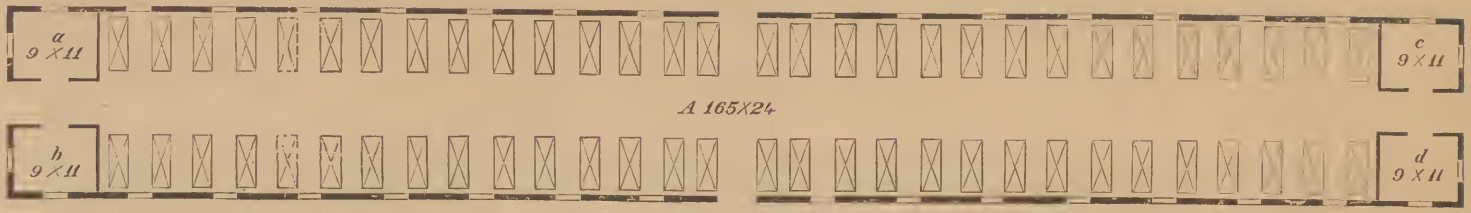
E. M. STANTON,
Secretary of War.

Site. The site of the hospital should be a well-drained plain, with a subsoil of gravel, and sufficiently extensive to accommodate the buildings. The situation should be elevated, as remote as possible from marshes or other sources of malaria, and must have a convenient supply of pure water.

Plan.—General hospitals will be constructed on the principle of detached pavilions, each ward being in a separate building, with beds for sixty patients. Besides the wards, there will be detached buildings for each of the following purposes: General Administration Building, Dining-room and Kitchen for Patients, Dining-room and Kitchen for Officers, Laundry, Commissary and Quartermaster's Store-house, Knapsack-house, Guard-house, Dead-house, Quarters for Female Nurses, Chapel, Operating-room, and Stable. The wards, administration building, kitchens, dining-rooms, and chapel are to be connected by covered walks, which will have floors, but no sides.

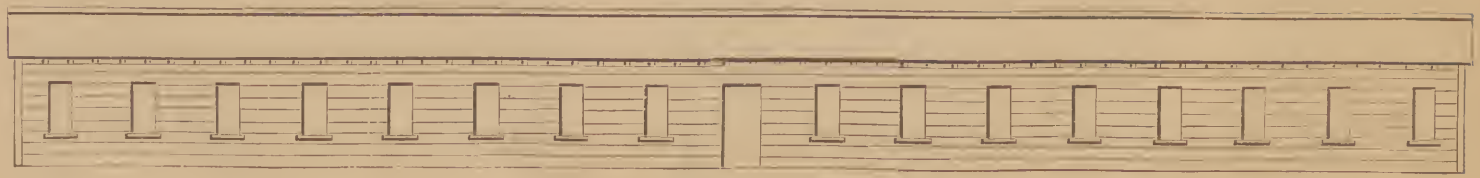
No general plan for the arrangement of the buildings can be directed, as the varying character and dimensions of sites render an uniform adherence to any one impracticable. Wards may be arranged "en echelon" in two converging lines, forming a V—in this case, the administration building should be at the apex of the V, the other buildings between the wings; or as radii from the periphery of a circle, ellipse, or rounded oblong—in this case, the administration building should be one of the radii, the other buildings within the enclosure; or parallel to each other—in this case, the administration building should be in the centre of the row, the other buildings in the rear. Other plans may be rendered necessary by the special features of the ground. In any case, the important points to be observed are, to place the buildings far enough apart, (at least thirty feet should intervene between two parallel buildings,) and to locate them in such a manner that no one shall interfere with the ventilation of another. It is preferable to locate the wards so that the long diameter may run north and south, or nearly so.

Fig. 3



PLAN OF WARD

Fig. 4



SIDE ELEVATION

Each *ward* will be a ridge-ventilated pavilion 187 by 24 feet. At each extremity, two small rooms 9 by 11 feet, one on each side of a passage, 6 feet wide, will be partitioned off. The space remaining for patients will be 165 by 24 feet, see Figure 3, A, which gives the location of the beds and position of the doors and windows. The small rooms are occupied as follows: Figure 3, *a*, chief nurse; *b*, closet for medicines, etc.; *c*, bath-room; *d*, closet for close stools. Figure 4 is the side elevation.

The wards will be 14 feet high from floor to eaves—the pitch of the roof to vary in accordance to the materials composing it. The floor to be elevated at least 18 inches from the soil, with free ventilation beneath it. A ward thus constructed will accommodate 60 patients, allowing more than 1,000 cubic feet of air-space to each. The number of wards will be regulated by the number of patients the hospital is intended to accommodate. A hospital of 1200 beds will require 20 wards.

Administration Building.—For a hospital of 600 to 1200 beds, this will be a ridge-ventilated building, 38 by 132 feet, and two stories high: the first 14 and the second 12 feet high in the clear. This building contains the general office, office of surgeon in charge, linen and store rooms, dispensary, chaplain's office, lodging-rooms for officers, etc.

Dining-Room and Kitchen for Patients.—The dining-room will be a ridge-ventilated building, large enough to seat a number equal to two-thirds the number of beds. The most convenient form is a long parallelogram, into which the kitchen opens in the centre of the long side. The kitchen will be divided into two unequal parts—the larger for the preparation of ordinary diet, the smaller for the extra diet—the cooking in both to be done on ranges. Where there is an engine, steam may be advantageously used for boiling.

Dining-Room and Kitchen for Officers.—A small building for this purpose will be situated near the administration building.

Laundry.—A building two stories high, with lodging for the laundresses on the second floor. The roof should be flat, with posts for stretching clothes-lines.

Commissary and Quartermaster Store-Room.—A small two-story building, furnished with boxes and shelves for the various parts of the ration—having an ice-house connected with it for the preservation of meats and other perishable articles, and a room for clothing. The second story to contain lodging-rooms for the cooks.

Knapsack-House.—A building to receive the effects of the patients while in hospital. It will contain as many pigeon-holes, each 2 feet square, as there are beds in the hospital.

Guard-House.—A detached building to lodge the guard, with a guard-room for prisoners.

Dead-House.—A small building containing two apartments, located so as not to be observed from the wards, and lighted by sky-lights.

Quarters for Female Nurses.—A detached building containing lodging-rooms, dining-room, and kitchen for the female nurses.

Chapel.—A detached building, fitted for the purpose of religious services, so arranged as to be used also as a library and reading-room.

Operating-Rooms.—Two rooms, each 15 feet square: one well lighted by sky-lights, the other by windows. The first for surgical operations, the second for discharge-boards, etc. It should be situated near the administration building.

Stable.—For ambulance and officers' horses.

Water Supply.—Where practicable, a large tank will be erected and kept supplied from wells or springs by pumps worked by a steam-engine. The engine, if possible, will be situated near the kitchen and laundry, in which case the steam may be made serviceable in cooking, and the power may be employed in working the washing and mangling machines.

Sinks.—Where the supply of water is adequate, water-closets may be constructed in one of the small rooms in each ward; but where this is not the case, privies will be built at a convenient distance from the wards, furnished with water-tight boxes, which must be emptied every night.

Ventilation.—During warm and mild weather the wards will be ventilated by the ridge (Figs. 5 and 6,) but during winter the ridge will be closed, (Fig 7,) and ventilation by shafts substituted. Four stoves will be allowed to a ward, each partly surrounded by a jacket of zinc or sheet-iron, with an air-box opening beneath it to

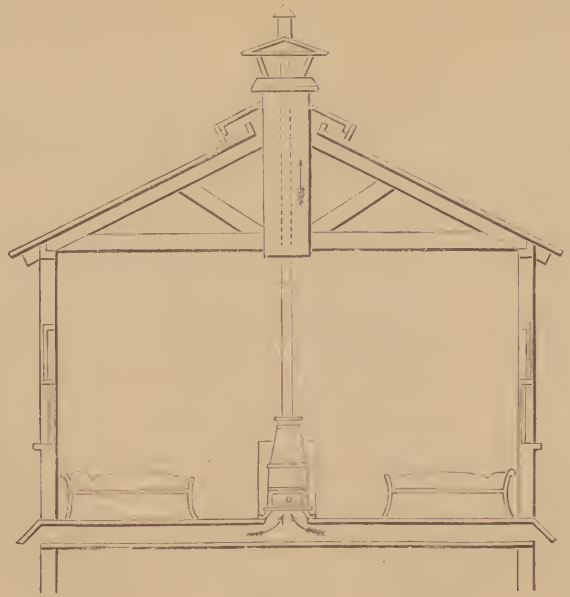


Fig. 5.

Fig. 6.

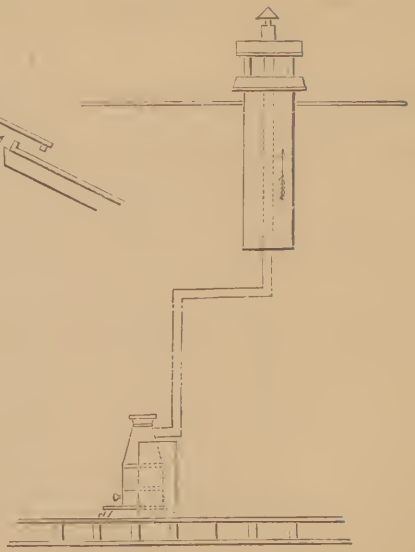


Fig. 7.

furnish the supply of fresh air. At 8 feet from the stove will be a shaft, properly capped, through which the stove-pipe will ascend. Figure 8 gives a section and Figure 9 a side view of the arrangement. The shaft should be 18 inches square, and should not come below the tie-beams.

2.—Model of the Lincoln Hospital, Washington, D. C.

This is a block model, on the scale of 30 feet to the inch, and represents the arrangements of the wards and other buildings of this hospital, of which the following description was furnished by Surgeon J. C. McKee, U. S. A., who was for a long time in charge:

Lincoln Hospital, Washington, D. C., is located about a mile east of the Capitol building. Its site is a gently-undulating, uncultivated plain, without shade-trees. East and south of the hospital, the plain declines towards the Eastern Branch of the Potomac, which is about half a mile distant. The soil is a light sandy loam, resting on a deep stratum of gravel. The hospital covers an area of thirty acres of ground, and consists of twenty detached pavilion wards, arranged "en echelon" in the shape of the letter **V**, the apex of which looks westwardly. The administration building is at the apex of the **V**. The buildings for kitchen, dining-rooms, etc., are in the space between the two sides of the letter. The whole is surrounded by a picket-fence, five feet high, between which and the wards is a wide road for ambulances. (See Figure 8.)

The *Wards* are pavilion barracks, built of rough boards, white-washed, with roofs of boards covered with tarred paper; they are 20 in number, 10 on each wing. Each ward is 187 feet by 24, 16 feet to the eaves and 20 to the ridge, at which there is the usual ridge-ventilation the whole length of the ward. They are plastered on the inside for about 8 feet above the floor. At the west end of each are 4 rooms, occupying 15 feet in length. These are used for clothing, baths, nurses, and sinks. Each ward contains 34 windows and 4 doors, one at each end and two in the middle, opposite each other. Four ventilating gratings, at regular distances in the floor of the ward, communicate by wooden flues under the floor with the air outside, thus giving a full supply of fresh air whenever the weather requires the doors and windows to be closed. With 62 patients, there are 72 square feet of floor and 1447 cubic feet of air-space for each. Thirty-one beds are arranged on each side, with a chair and bed-side table between each pair. An avenue of 11 feet is left between the two rows of beds. The wards are lighted at night by kerosene lamps, and heated by stoves in winter. On the inner side of the two wings of the hospital, and running the whole length of each, is a raised covered walk or corridor, on which is laid a railway track 2 feet wide and 2156 feet long. Box-cars convey the food from the main and extra kitchens to each ward.

The *Administration building*, at the apex of the triangle, is 184 by 38 feet, 22 feet to the ridge and 16 to the eaves. A hall, 8 feet wide, runs the entire length of the first floor. On the left side of the hall are the following rooms: office of surgeon in charge, 14 by 14; office of military assistant, 11 by 14, (employs two clerks;) principal office, 56 by 14, (employs fourteen clerks;) printing-office, 19 by 14, (employs two men;) quartermaster's store-room for clothing, etc., 44 by 14, (employs two clerks:) wardmaster's room, 13½ by 14; bath-room, 4¾ by 14; post-office, 7 by 14, (employs a postmaster and assistant.) On the other side of the hall, and on the right of the entrance door, are the office of the officer of the day, 15 by 14; office of the officer of the guard, 11 by 14, (four clerks;) office of surgical records, 11 by 14, (one clerk;) private office of surgeon in charge, 12½ by 14; office of medical inspector, 11 by 14; linen-room, 66 by 14; all washed clothing and bed-linen is sent from the laundry to this room, and thence distributed to the different wardmasters; one clerk and four women are employed here, the latter in mending, etc. The medical store-room, 11 by 14, adjoins the dispensary, and is used for storing supplies. The dispensary, 25 by 14, usually employs four men: the medicines for the whole hospital are compounded here, under the charge of a hospital steward. Lastly, the laboratory,

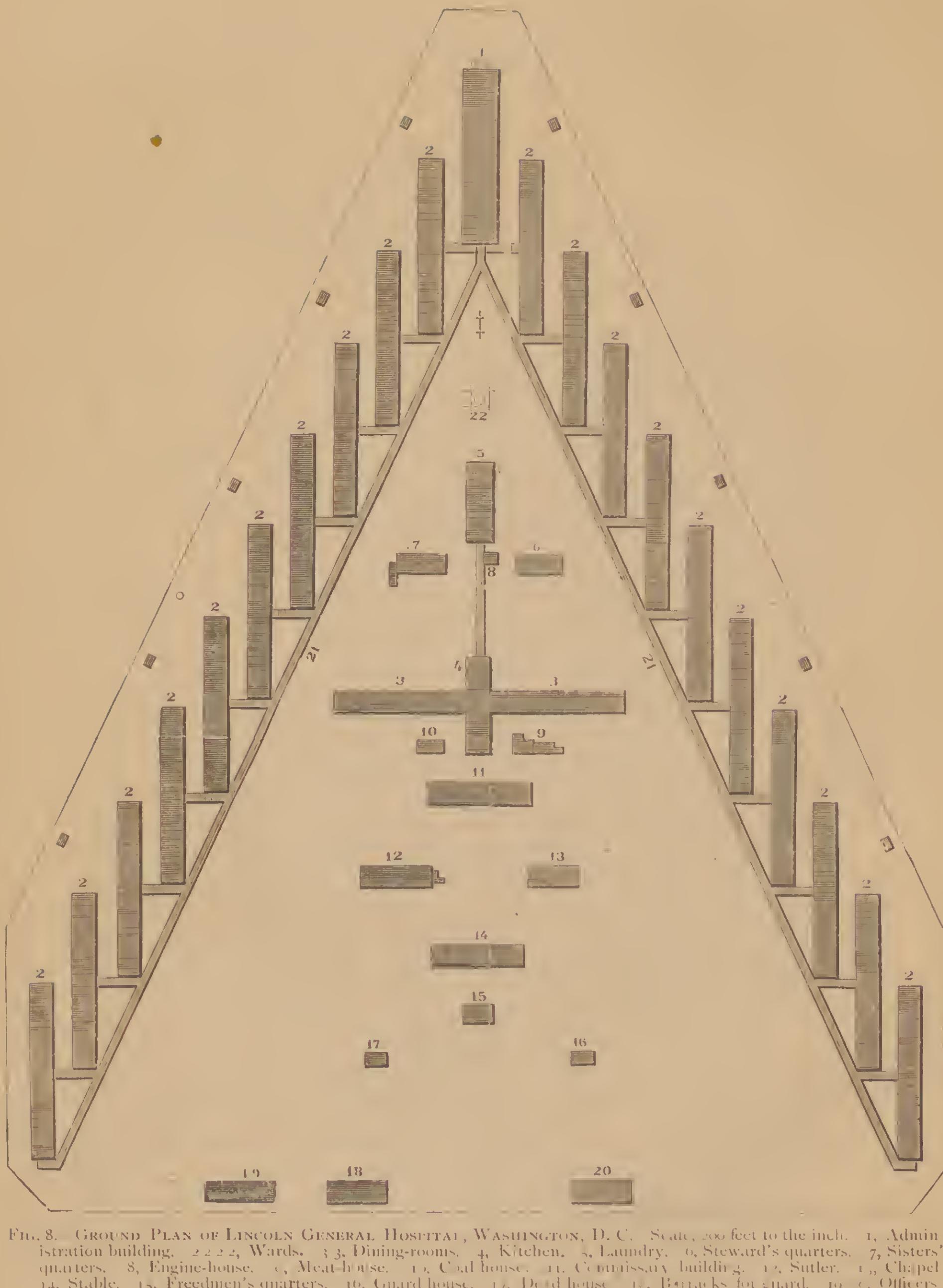


FIG. 8. GROUND PLAN OF LINCOLN GENERAL HOSPITAL, WASHINGTON, D. C. Scale, 200 feet to the inch. 1, Administration building. 2 2 2 2, Wards. 3 3, Dining-rooms. 4, Kitchen. 5, Laundry. 6, Steward's quarters. 7, Sisters' quarters. 8, Engine-house. 9, Meat-house. 10, Coal house. 11, Commissary building. 12, Sutler. 13, Chapel 14, Stable. 15, Freedmen's quarters. 16, Guard house. 17, Dead house. 18, Barracks for guard. 19 20, Officers quarters. 21, Covered way. 22, Tank.

which adjoins the dispensary, is 22 by 11 feet, used for preparing tinctures, ointments, plasters, etc.

On the second floor of the administration building is the knapsack-room, 111 by 37 feet. The effects, accoutrements, etc., of the patients coming into the hospital are deposited in this room for safe keeping. It employs two men, who receive the articles deposited, issue tickets for the same, credit them to depositors, and deliver them when the patients leave. There are 2184 boxes, arranged in parallel rows, reaching from the floor to the ceiling. Adjoining the knapsack-room is the extra-duty men's room, 50 by 37 feet, used as a sleeping-room by the men employed on extra duty, and a clerks' room, 25 by 23 feet, used by the clerks of the principal office for the same purpose.

Within the triangle formed by the two wings, and east of the administration building, is the *Tank*, resting upon a platform 25 feet high, and holding 12,000 gallons of water. It is supplied from a well under the engine-room, and the water forced into it by the engine, which drives the machinery of the laundry. This tank supplies each ward with water by means of pipes. There are four other wells in the enclosure, used for drinking and culinary purposes.

Twenty yards east of the tank is the *Laundry*, 61 by 24 feet. The building runs east and west, is two stories high, and has a platform for drying clothes on the roof. Seven men and twelve women are employed in its various departments. The washing is done by steam-power, as is also the drying and ironing. The average wash is 5000 pieces daily—has been pushed to 7000. On the first floor of the laundry is the washing apparatus, consisting of a mangle, steam-boiler, revolving drum for wringing, rinsing-boxes, roller and ironing table; on the second floor is the steam drying-room, 36 by 12½ feet. This is in addition to the drying arrangements on the roof. Separated by a partition from the laundry, on the first floor, is a sleeping-room for women, 22 by 24 feet; a kitchen for the same, 9½ by 17; a dining-room, 9½ by 18. The engine is in a building adjoining the laundry on the east; it is of six-horse power, and employs one engineer and an assistant. It supplies power for the tank as well as for the laundry. The well which supplies the tank is 40 feet deep, with usually 4 feet of water; its diameter is 6 feet. The steam pump can raise 2000 gallons of water per hour.

The building for *Sisters' Quarters* is 23 by 51 feet, with a wing 16 by 28, forming a letter "L." It is divided into chapel, sitting-room, kitchen, etc. Twenty-eight Sisters of Charity were on duty, and I must bear evidence to their efficiency and superiority as nurses. The extra-diet kitchen is under the care of a sister, and one is detailed by the superior for each ward. They administer medicine, diet, and stimulants, are under the orders of the ward surgeon, and are responsible to him alone. They have been beloved and respected by the men.

The *Stewards' Quarters* are 18 feet north of the engine-room, are two stories high—contain dining-room, kitchen, sleeping-rooms, etc. Five stewards generally occupied this building.

The *Operating-room* is 25 feet east of the engine-room. It is 17 feet square, and lighted by a skylight on the north side of the roof. A revolving-table is in the centre of the room; also a cupboard for instruments, sponges, microscope, etc., with a sink in the northwest corner. The Examining-room adjoining it is 17 feet 7 inches square, and communicates by a door with the operating-room.

The *Extra-Diet Kitchen* is under the same roof with the general kitchen. It is 18 by 24 feet—has in it a Harrison's European range, 8 feet front, 3 feet 6 inches deep. A room 18 by 12 feet adjoins on the south. This kitchen is under the supervision of a sister, who is generally assisted by from four to six men.

The *Main Kitchen* is 77 by 24 feet. It contains a cooking-range, 28 feet 10 inches long and 3 feet 2 inches wide; also three of "Peters' and Johnson's bake-ovens or roasters," two boilers for tea and coffee, each with a capacity of 120 gallons, five boilers or cauldrons for soup or hash, (60 gallons each,) and two for heating water, (one 60 gallons, the other 22 gallons.) Full diet is prepared here for all the men in the hospital.

On either side of the kitchen, opening from it north and south, are the *Dining-rooms*, each 146 by 24 feet, with three tables running the whole length of each, capable of seating in all 860 men. At the distal end of each room a door opens on a corridor and raised walk, so that the patients are protected from the weather in

coming to their meals. Cars, with cans fitted in them, are run around the corridors to the several wards with the food for those unable to come to the dining-room.

On the northwest corner of the kitchen is a room 30 feet long, 14 feet wide, and 10 feet high, used for washing dishes, roasting coffee, etc. From 40 to 50 men are usually employed in the various departments of the kitchen.

Opposite the centre of the northern dining-room and distant to the west 30 feet, is the *Fire-Engine and Hose-House*, 26 by 20 feet—contains one fire-engine, three hose-carriages, carrying 1850 feet of hose, 34 ladders, 22 hooks, 278 axes, and 300 buckets.

Thirteen feet south of the kitchen is the *Meat-shop*, 14½ by 23. In its centre is an ice-box, 3½ by 14½, and 4 feet deep, lined with zinc. The allowance of ice per day is one pound for each man.

East of the kitchen, and connected by a covered way, is the *Commissary Building*, which is two stories high; the upper story is used to lodge attendants; the lower story, used for commissary store-room, is 82 by 23½, and is under a commissary steward. In the northeastern corner is the liquor-room, 8½ by 13, heavily planked and secured against marauders. All liquor is issued here on the orders of the ward surgeons. The vegetable room is in the northwestern corner, and is 9 by 13½. An office, 9 by 15½, adjoins the liquor-room. The books and accounts are kept in this office. The store-room is provided with a counter 52½ feet long, and gives employment to one steward, one clerk, and two men. At the southern end is the bread-room, 14½ by 23, which employs two men cutting bread for the tables. Adjoining, on the east, is the bakery, 14 by 23½. The oven is 10 by 16 feet.

The *Chapel* is situated 63 feet east of the commissary building. It is a structure shaped like the letter "T," one story in height, with a cupola on top. The main building is 24 by 78 feet. The northern end is used during the week as a reading-room. The left wing, 18 by 26 feet, is used as a library; it contains 3,000 volumes, contributed to the hospital from various sources. The right wing is the same size, and is used as a school for the freedmen employed in the hospital, who are instructed by two female teachers.

Twenty-four feet south of the chapel is the *Sutler's Store*, 24 by 68. The *Stables*, 25 by 101, are 72 feet east of the sutler's shop; they contain 18 horses, 3 wagons, 3 ambulances, 3 carts, and 1 night-cart. Thirteen men are employed as hostlers, drivers, etc. One hundred and twenty-one feet northeast of the stables is the *Guard-House*, 15 by 47 and one story high. South of this are the *Oil-Room* and *Freedmen's Quarters*, 29 by 69 feet. The oil and lamp room is in the northern part. Kerosene oil was used in lighting the whole hospital, and all the lamps were filled and trimmed in this room. A corporal and two men were employed. Ninety-one feet southeast of the oil-room is the *Dead-House*, 15 by 40 feet. It is divided into two rooms—the northern one used in making post-mortem examinations, and the southern for plaster-casts, etc. Thirty-two feet south of this room is the *Photographic Gallery*, 16 by 24 feet. An operator is employed at $100 per month, paid from the slush fund. Surgical cases, pathological specimens, etc., are taken; also likenesses of all men discharged on surgeon's certificate of disability, as a guard against fraud. On the base line of the triangle are the *Medical Officers' Quarters*, 63 by 24 and two stories in height; also, in the same line, the quarters for the *Veteran Reserve Corps*, a building two stories high, with an outside entrance-stairway to the second floor. Ninety feet further back, 100 hospital tents are pitched, placed four end to end, on substantial frames, with floors raised from the ground and a door at each end of the frame. The sides of these tents were always easily raised, and gave the best of ventilation; hence I selected some of them as gangrene-wards, and, I think, with the very best results. In winter, each ward was heated by two stoves, with pipes running to a shaft in the centre. Each ward of four tents contained 20 beds. The length of the fence around the hospital is 1458 yards. The distance of the fence from the tents at the base of the triangle is 124 feet. Sinks were arranged around the whole line of fence. They had movable boxes, which were regularly emptied and limed. Policing was done by a gang of about 20 freedmen. The hospital could accommodate 1240 patients in the 20 barrack wards. Its total capacity in January, 1865, was 2575 beds, including those in tents and the branch barracks, a short distance off.

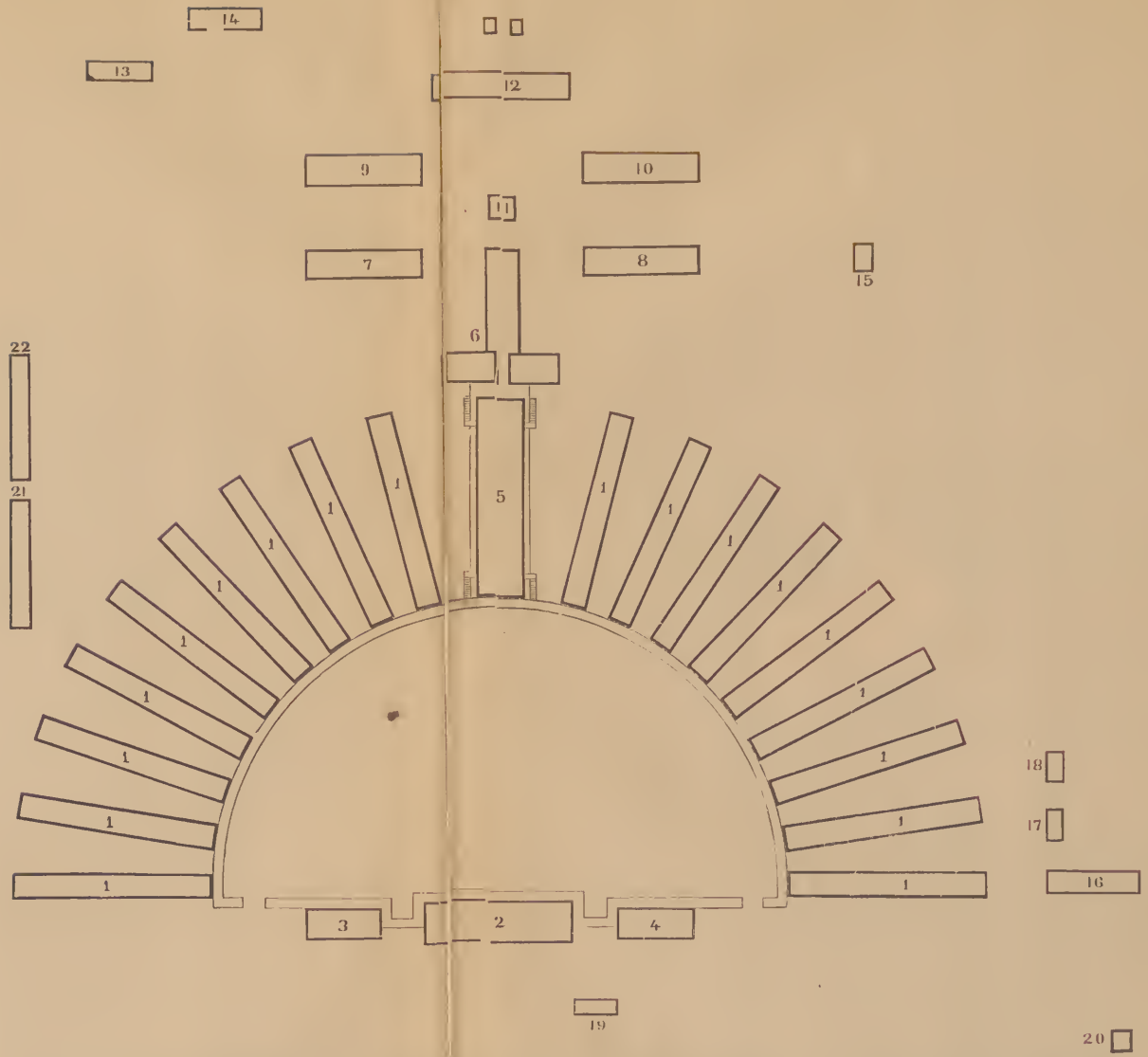


FIG. 9.—GROUND PLAN OF HICKS' GENERAL HOSPITAL, BALTIMORE, MD. Scale, 180 feet to the inch. 1 1 1 1, Wards. 2, Administration building. 3, Linen-room, etc. 4, Dispensary and operating-room. 5, Dining-hall. 6, Kitchen and laundry. 7, Ward for detailed men. 8, Knapsack-room. 9, Commissary store-house. 10, Quartermaster's store-house. 11, Tank. 12, Quarters for guard. 13, Stable. 14, Wagon-house. 15, Sutler. 16, Steward's quarters. 17 18, Officers' houses, (of which, also, there are several not in the figure.) 19, Guard-room. 20, Guard house, near entrance gate. 21, Work-shop. 22, Contagion ward, this is farther distant than is represented in the figure. The wards, dining-room, and administration building are connected by a covered way which is indicated by faint lines in the plan.

This hospital was opened December 23, 1862, and closed August 22, 1865. During this period the movements of patients were as follows:

	Admitted.					Results						
	Sick.	Wounded.	Total.	Returned from furlough and desertion.	Aggregate.	Returned to duty and mustered out	Sent to general hospital.	Furloughed	Transferred to Veteran Reserve Corps.	Discharged.	Deserted	Died
White troops	12391	7837	20228	3565	23793	7191	9411	4400	392	1053	286	1060
Colored troops	13	5	18	.....	18	.....	18	.....	.....	.....	.....	.....
Prisoners of War	174	959	1133	.....	1133	.....	924	.....	.....	45	3	161
Total	12578	8801	21379	3565	24944	7191	10353	4400	392	1098	289	1221

Deducting those sent to general hospital as cases not terminated, and considering that furloughed and deserted amounted to 4686, while only 3565 of these are reported as returned from furlough and desertion, we shall have the following statistics for the *terminated cases of white troops* treated:

Total to be accounted for, excluding those sent to other hospitals, 10,817: of whom 6339 were returned to duty, 852 mustered out of service at the close of the war, 1121 lost by desertion and failure to return from furlough, 1053 discharged for disability, 392 transferred to Veteran Reserve Corps, and 1060 died.

3.—Model of the Hicks' Hospital, Baltimore, Md.

This is a block model on the scale of 30 feet to the inch. The following description of the hospital is taken from circular No. 6, Surgeon-General's Office, Nov. 1, 1865:

The Hicks' Hospital is situated on the continuation of Townsend street, in the western suburbs of Baltimore, near the city boundary. It was opened for the reception of patients June 9, 1865, and is therefore one of the most recently constructed hospitals. The plan was essentially the circular one referred to above, p. 9, but many important improvements and additions were devised by Surgeon Thomas Sim, U. S. Vols., under whose supervision the details of the plan were prepared. The original design contemplated a circular hospital, built on the War Department plan, with thirty-six radiating pavilion wards, each to accommodate 60 patients. The approach of the end of the war, however, prevented this from being executed, and the hospital, as completed, is a semi-circle, in which the wards radiate from a covered way. It is, however, both on account of the substantial character of the wooden buildings and the numerous conveniences which have been carefully supplied, one of the most complete of the hospitals built during the war. (See Fig. 9.)

The wards are built and ventilated as directed in the circular from the War Department. The administration building is 132 by 38 feet and two stories high; the first story contains offices for the surgeon in charge, executive officer, quartermaster, commissary, and their clerks; it also contains the hospital library and printing office. On the second floor are sleeping apartments for officers. This building is flanked on each end by a smaller one, 70 by 28 feet, one of which contains the linen-room and post-office, with the officers' dining-room, kitchen, and pantry. The other contains the dispensary, medical store-rooms, room of the discharge board, and an operating-room lighted by a skylight. The dining-room building is 187 by 48 feet,

and is two stories high. The dining-room, which is on the first floor, is capable of seating about 1,200 patients. The second floor, which is accessible by stairs on the outside, is occupied by the chapel and by dormitories for female nurses. At the end of the dining-room is a T-shaped building for kitchen and laundry. The general kitchen, extra-diet kitchen, and bakery occupy separate apartments; the former two each contains a suitable range and steam fixtures, the latter two bake-ovens. The laundry has a separate room for drying by steam, and immediately adjoins the engine-room, which is at the extremity of the building. There are, besides the foregoing, separate buildings for knapsack-room, quartermaster's store-house, commissary store-house, quarters for detailed men, barracks for guard, workshop, contagion ward, dead-house, stewards' quarters, and quarters for married officers. The buildings are plastered inside, are lighted by gas, to be warmed in the winter by stoves, and receive their water supply by pipes from the city water-works, besides which there is a tank for the purpose of keeping a stock of water constantly on hand in case of fire. For the purpose of extinguishing fire, there is abundant hose to fit the steam-pump. There are also water-buckets, axes, etc. At the distal end of each ward is a lavatory and bath-room and a water-closet. Each bath-room has in it a small stove, on which is a boiler for the supply of hot water. In the water-closets the excretions are received in troughs, into which a stream of water runs, and which are emptied by withdrawing a plug several times daily. They discharge into sewers constructed for the purpose, which carry all offensive matters entirely away from the hospital.

This hospital was opened for patients June 9, 1865; and closed March 31, 1866. The total number of white soldiers received up to this date was 1275, of whom 1011 were sick and 264 wounded. Of these, 404 were transferred to other general hospitals. The number of terminated cases, therefore, was 871, who are thus accounted for:

Total to be accounted for, excluding those transferred to other hospitals, 871; of whom 184 were returned to duty, 447 mustered out of service at the close of the war, 69 lost by desertion and failure to return from furlough, 119 discharged for disability, 2 transferred to Veteran Reserve Corps, and 50 died.

Besides the above, 290 colored soldiers were admitted, of whom 19 died.

4.—Model of the McClellan Hospital, Philadelphia, Pa.

This is a block-model, on a scale of 30 feet to the inch. It was constructed, as was the model of the Mower Hospital, described below, by Mr. John McArthur, of Philadelphia, the architect by whom the plans for the construction of these hospitals were prepared. The following description is condensed from an inspection report by Medical Inspector John L. Le Conte, U. S. A.:

The McClellan Hospital is located on a portion of the old Logan estate, named Stenton, situated on the Germantown turnpike, within four miles of Philadelphia.

The ground upon which the hospital stands is a plateau, which slopes gently and regularly to Wingahocking creek.

This small creek has a succession of little falls and ripples, which, within the distance of half a mile, makes a descent of twenty-five feet or more. This creek provides one of the great requirements of a hospital—admirable drainage.

The hospital buildings were turned over to the Government on February 9, 1863. They are constructed entirely of wood, boarded outside and inside, the joints on the outside being battened. (See Fig. 10.)

The plan of the hospital is as follows: 18 *wards* radiate from a corridor 15 feet wide, arranged in the form of a parallelogram, with rounded extremities. In this corridor rails are placed, on which food-cars carry meals from the general kitchen to the doors of the wards. The wards are each 175 feet long, 20 feet wide, and 13 feet high to the eaves, with a pitch of 5 feet from the apex of the roof. Each ward contains 61 beds; 60 in the ward proper, and 1 in the ward-master's room. 5 beds out of the 61 are intended to be occupied by the nurses and attendants, thus leaving 56 beds for patients in each ward. It may be stated, however, that most of the nurse

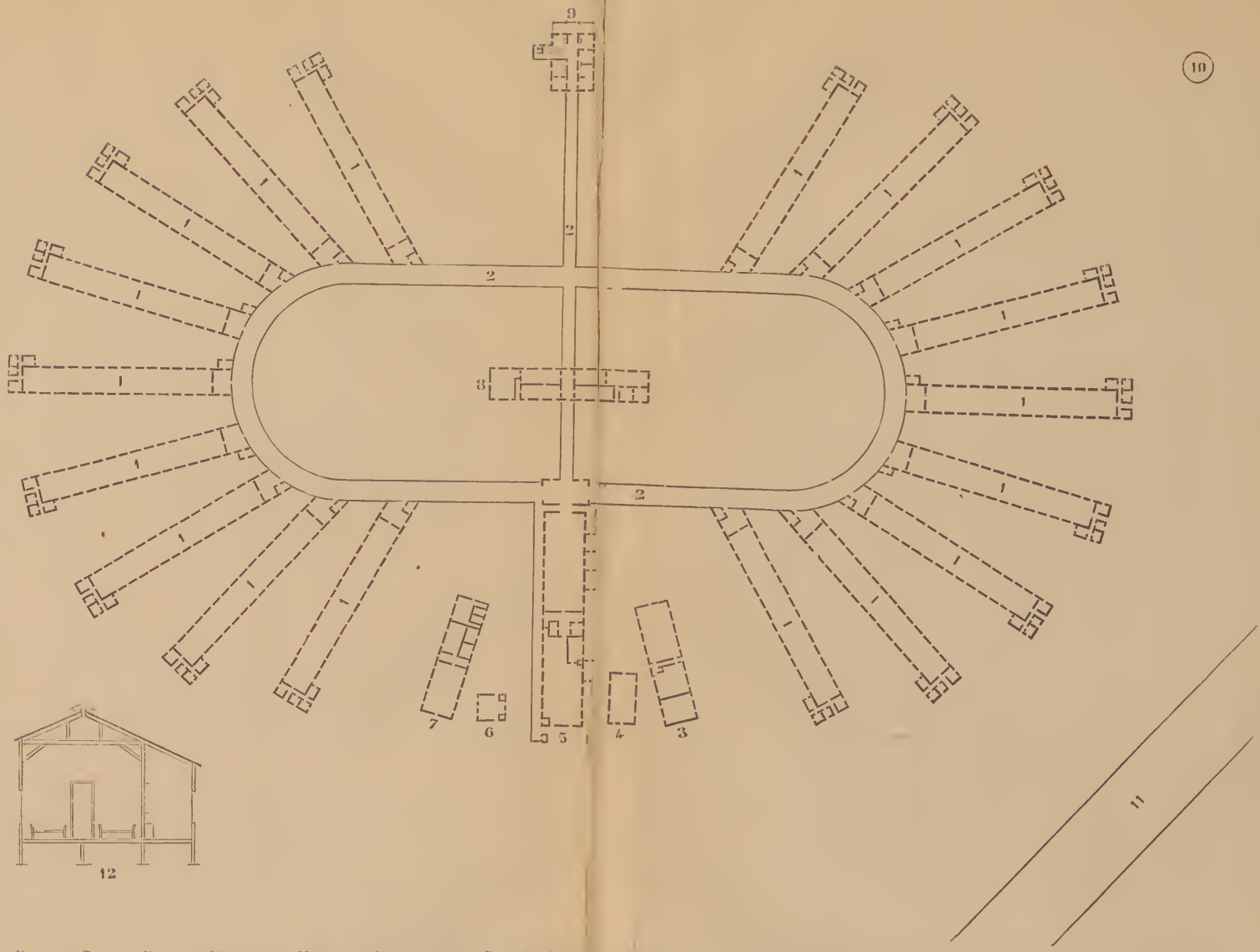


Fig. 10.—Ground Plan of McClellan Hospital, Philadelphia, Pa. Scale, 125 feet to the inch. 1 1 1 1, Wards. 2 2, Corridors. 3, Quartermaster's building. 4, Engine-house. 5, Kitchen building. 6, Stable. 7, Commissary building. 8, Administration building. 9, Officers' quarters. 10, Cess-pool. 11, Germantown avenue. 12, Section through end of ward.

duty, &c., is performed by convalescents, who are really patients in the hospital. The greatest capacity of the hospital proper is 1098 beds. The present capacity of the hospital, however, is much greater, 200 beds having been placed in the corridors, and 800 in hospital tents pitched in the hospital grounds, thus making the total number of beds upwards of 2000. Each ward has a *dining-room* and *pantry* at its inner extremity next the corridor, and a *ward-master's room*, *lavatory*, *water-closet*, and *bath-room* at its outer extremity.

In addition to these, small galleries have been put up in the outer extremities of the wards, covering the entries, &c., for the purpose of stowing away articles that might otherwise encumber the wards. In the ward-master's room are closets for placing the ward clothing, and in the extremity of the entry dividing the above little offices large closed boxes have been constructed for receiving soiled clothing. Dressing closets, boxes, and cupboards have been added from time to time to facilitate the working of the wards and provide every convenience for the inmates. Each ward is, in fact, a complete hospital within itself, except kitchen and dispensary.

The *Commissary building* is situated on the western front of the hospital. It is 111 feet long, 24 feet wide, and 25 feet high. It contains in the lower story two store-rooms, an ice-house and meat-room, cellar for keeping ale, porter, and milk, offices for the commissary steward, mess-room for the hospital stewards, and paint-shop. On the second floor it contains 2 knapsack-rooms, an office, bath-room, and dormitory.

The *Quartermaster's building* is situated on the western front of the hospital. It is 111 feet long, 24 feet wide, and 25 feet high, and contains 2 store-rooms well provided with shelving, an office, dormitory, and green-room on the first floor: on the second floor, a store-room, guard-barracks, and prison room.

The *Engine-house* is one story high, and is situated on the western front of the hospital, between the Quartermaster's building and laundry. It is 40 feet long, 19 feet wide, and 17 feet high. There is a small additional building attached to it, used as coal-bins, with a capacity of 20 tons. Fourteen feet of the main building is partitioned off for engineers' quarters, leaving the boiler-room 26 by 19 feet. There is a bench with vice attached, and all the necessary tools for making repairs. There are 2 tubular boilers, locomotive pattern, 10 feet long, with 38 two-inch tubes. The draft is through underground flues leading to the smoke-stack: the stack is 45 feet high. The boilers are 10-horse power each, and supply the steam for bathing, cooking, and washing purposes, and for running 2 steam pumps, 1 of 5-horse power, used in case of fire; the other, a 10-horse power pump, for supplying the building with water from the wells.

The *Kitchen building* is situated at the middle of the western front of the hospital. It is 172 feet long, 30 feet wide, and 28½ high, and is composed of 2 stories. The *Laundry* is situated at its western extremity. The cooking-room is 90 feet long; a small store-room is attached to it, and it is well provided with sinks, hot and cold water, cupboards, closets, &c. The arrangements are ample and convenient for the original capacity of the hospital, but the tent-wards have special cooking arrangements. The cooking in the general kitchen is done by means of 2 large ranges, 2 cooking-stoves, and 2 double-jacketed steam-boilers.

The laundry is 74 feet long. It is well furnished, and the washing accommodations are ample, there being 24 stationary wash-tubs, each having 2 faucets, 1 for cold water, the other for the steam with which it is heated. There are 2 large steam-boilers for boiling clothes and making soap. The laundry contains also an office for the chief matron, a drying-room, ironing-room, and the room for dirty clothing; above the laundry, in the second story, is the linen-room. The whole laundry is divided from the kitchen by a 6-foot entry. Five thousand pieces of clothing per week have been washed in the laundry, with an average of 25 washing women.

It may be added, however, that a considerable amount of clothing has now to be issued to laundries outside of the hospital. Over the kitchen and laundry are dormitories for the employés of those departments.

The *stable* is also situated at the western front of the hospital, between the laundry and commissary building. It is convenient and comfortable, having stalls for four horses, carriage-house, and mow above capable of holding 10,000 lbs. of straw.

The *Printing office* and *Paint shop* are on the first floor of the commissary building; the former is furnished with a small press, with chase 9 by 11 inches. It is well supplied with type and all printing appliances. All the printing of the hospital

is done here. The paint shop is a small room next the printing office. It is well supplied with painting materials.

A small building has been constructed north of the commissary building, to be used as a *Carpenters' shop*. All the necessary repairs for the hospital are prepared here.

The *Officers' quarters* are situated at the eastern front of the hospital, and are well located, convenient, and pleasant. The building is 2 stories in height, with 7 chambers, kitchen, bath-room, and water-closet on the first floor, and 7 chambers, bath-room, and water-closet on the second.

The *Dormitories for Cooks and Matrons* are situated over the kitchen and laundry. The guard are quartered in hospital tents.

The *Administration building* is situated in the middle of the centre oval, and is connected with the main corridor and officers' quarters by a transverse corridor running at right angles to the long diameter of the oval. In it are situated most of the offices of the hospital, viz: The offices of the surgeon in charge, executive officer, assistant executive officer, military assistant, general office for clerks, reception-room for officer of the day, officers' mess-room, dispensary, and store-room. The offices are all small; but being centrally situated, are very convenient to all parts of the hospital.

The dispensary is well arranged and ample.

The *Knapsack-room* is on the second floor of the commissary building. It is provided with boxes for every bed, and is conveniently arranged. Each ward has metal checks, with the number of the ward and number of the bed stamped upon them. When patients are received these checks are placed upon their baggage, and it is then stored away in the appropriate boxes.

The *water* of the hospital is supplied by the Germantown water-works. The water bills are all estimated on the basis of 30 gallons per diem for each inmate of the hospital. Wells are now being dug, which it is supposed will supply all the water needed. Two of the wells are already constructed, and about 8,000 gallons per day are pumped from them. The water from the wells is of very good quality.

The water is distributed through the hospital by means of galvanized-iron pipes, and in case of accident or fire two main reserve tanks, with a capacity of 30,000 gallons, are kept filled to supply deficiencies.

Over the northern and southern portions of the corridor are placed 2 large tanks, with a capacity of 3800 gallons each, the water in which is heated by steam; these supply the hot-water for bathing, pantry, and other purposes.

A similar tank of the same size, heated by steam, is placed over the kitchen, to supply it with hot-water.

The *drainage* of the hospital is arranged as follows: One line of 12-inch tile pipe surrounds the whole of the hospital buildings, just outside of the line of the fence, with 4-inch pipes leading into the same from the lavatories, bath-rooms, and water-closets of each ward. Another line of 12-inch pipe surrounds the inner oval at the margin of the corridor, with 4-inch pipes leading into it from the kitchen sinks, laundry, wash-tubs, and water-closets. Both 12-inch mains connect on the southeastern portion of the hospital, and empty into a cess-pool about 150 yards in the rear. The cess-pool is 20 feet in diameter. The overflow from it is led by means of a drainage tile into the Wingahocking creek. The solid materials are cleaned out from time to time as the pool becomes filled.

Ventilation, Heating, &c.—Each building is furnished with ridge ventilation, and in the wards there are also floor ventilators between the windows, capable of being closed by sliding frames. The openings are flush with the floor and 8 inches square; there are 27 to each ward. The openings in the ridge are covered by falling shutters, which are elevated and lowered by pulleys.

The hospital is heated by 256 stoves; these are watched at night during the cold season by an organized fire-guard, the same guard doing duty in the wards and corridors as watchers during the warm weather.

The hospital is lighted by gas from the Germantown gas-works.

The *water-closets* are 9 feet 5 inches long by 6 feet wide. The apparatus consists of a cast-iron sink 9 feet long and 12 inches wide, covered by a board pierced with 5 holes; a faucet supplies the water, and a trap removes it whenever it becomes necessary.

Each ward has also a cast-iron drip or sink for washing dishes and other work.

The *apparatus for subduing fire* consists of 2000 feet of 2¼-inch india-rubber hose, with couplings complete, 8 fire-plugs, and one 5-horse power force pump.

Two large reserve tanks, holding 30,000 gallons of water, are placed over the main corridor, on brick walls, for the purpose of furnishing an extra amount of water should the supply from the main be insufficient.

In addition to the above, each ward has a 20-foot section of inch hose, with couplings and branch pipe, that can be attached in a moment to a small plug in the water-closet. Each ward has also in the dining-room a fire-axe, and three fire-buckets kept constantly filled. It has been stated before that an organized fire-guard patrols the hospital at night.

This hospital was opened March 12, 1863, and closed July 30, 1865. During this period the movements of patients were as follows:

	Admitted.			Returned from furlough and desertion.	Aggregate.	Results.								
	Sick.	Wounded.	Total.			Returned to duty.	Mustered out.	Sent to other general hospital.	Furloughed.	Transferred to Veteran Reserve Corps.	Discharged.	Deserted.	Died of disease.	Died of Wounds.
White troops.	3382	4151	7533	3119	10652	3395	720	1738	3192	111	698	691	71	36
Colored troops	34	4	38	.....	38	35	.....	1	.....	.....	2	.....	.....	.....
Prisoners of War	.....	25	25	.....	25	8	.....	9	.....	.....	.....	.....	.....	8
Total.	3416	4180	7596	3119	10715	3438	720	1748	3192	111	700	691	71	44

Deducting those sent to other hospitals as cases not terminated, and considering that the furloughed and deserted amounted to 3883, while only 3119 of these are reported as having returned, we shall have the following statistics for the *terminated cases of white troops* treated:

Total to be accounted for, excluding those sent to other hospitals, 5795; of whom 3395 were returned to duty, 720 were mustered out of service at the close of the war, 764 lost by failure to return from furlough and desertion, 698 discharged for disability, 111 transferred to the Veteran Reserve Corps, and 107 died.

5.—Model of the Mower Hospital, Philadelphia, Pa.

This is a block-model on the scale of 30 feet to the inch. The following description is condensed from an inspection report by Medical Inspector John L. Le Conte, U. S. A.:

The Mower Hospital is situated on an elevated plateau in the village of Chestnut Hill, about 9 miles north of the city of Philadelphia. It is on the eastern side of the railroad, and trains from Philadelphia pass every two hours. The total capacity of the hospital is 3600 beds.

It is constructed of wood in the best manner, lined with smooth planks on the inside, and lathed and plastered on the outside. It consists of 50 *pavilions*, radiating from a corridor of a rectangular form, with rounded angles. The corridor is 16 feet wide and 2400 feet long, enclosing a space of 7 acres. The *Administration Building* is located in the centre of the enclosed space. This building is connected with the wards by a transverse corridor. (See Fig. 11.)

A third corridor connects the entrance to the hospital with the administration building, thus dividing the enclosure into three sections. Within the enclosure are the chapel and Bible-class room, laboratory, carpenter's shop, dining-room for attendants, boiler-room, general and extra-diet kitchen, butcher's-house, milk-house, operating-room, and dead-house, guard-house, and sutler's shop.

In the rear and on each side of the hospital are two buildings, each in the form of the letter L, and each connected with body of hospital by means of a corridor.

One-half of the one located on the northeastern extremity of hospital is used as a *barracks for convalescents*. The lower floor of the other half is occupied by the *Quartermaster's* and *Medical Purveyor's stores*, while the upper floor is used for offices and *quarters of officers of Veteran Reserve Corps*.

One-half of the other L-shaped building, which is situated in the northwestern extremity of hospital, is used as *barracks for the non-commissioned officers and privates of the Veteran Reserve Corps*, the other half as a dining-room for the occupants of both barracks.

Forty seven of the pavilions are used as *wards* for patients. Each pavilion is 175 feet long, 20 feet wide, 13 feet high to the eaves, and 19 feet to the ridge. The *Dining-room* at the entrance to each ward is 10 by 20 feet: the *Scullery* adjoining, 8 by 10 feet. At the opposite end of building is a ward-master's room 10 by 12 feet, a *Wash-room* 8 by 10 feet, *Water-closet* 12 by 6 feet, and in an adjoining building, 10 by 12 feet, a *Bath-room*.

The ward proper is 150 by 20 feet. Each ward contains 61 beds. The offices are located in the *Administration building*, on the first floor. In addition to those belonging to the surgeon in charge, there is an executive office and an office for the transaction of the general business of the hospital.

Adjoining the general office is the *dispensary*, 14½ by 60 feet, with a *Store room* in the rear 29 by 30 feet. Opposite the general office is the *Medical Officers' mess-room* 14 by 79 feet.

The second story is divided into 32 rooms, used as *quarters for Medical Officers*.

The *Operating-room* is in a separate building, 25 by 40 feet, situated to the right of the corridor connecting the entrance with the administration building. This building is divided into two rooms. The rear room is a lecture-room, containing seats for 100 persons, where all operations are performed. This room contains closets for instruments, dressings, &c., and the medical library and pathological cabinet of the hospital. The front room, 13 by 25 feet, is used as a *Dead-house*, and contains all the conveniences for post-mortem examinations, and a vault 8 feet long, 4 feet wide, and 12 feet deep, with windlass and dumb-waiter, for the reception of deceased soldiers preparatory to their burial.

Near the operating room is the *Guard-house*, which is strongly built, and contains a room 20 by 15 feet, for the guards, and six small cells for prisoners; it is also provided with a water-closet. Alongside of the guard-house is the *Sutler's shop*, 16 by 50 feet, connecting by a passage way with the main corridor.

The pavilion to the right of the entrance is divided into 3 rooms; the front and largest is used as a *Knapsack-room;* the two smaller ones are used by the band. The pavilion on the left of the entrance is two stories high. On the lower floor is the reception-room, mess-room for stewards, closets, &c., and the *Laundry*. The second story is used as a *Barracks for Attendants*. The pavilion next on the left of this is used for the commissary stores, bread-room, and quarters for stewards.

On the left of corridor connecting the entrance with the administration building is the *General Kitchen*, 30 by 110 feet. It contains three large-sized hotel ranges, and three London kitcheners, eight double-jacketed steam kettles for soup, and three large sized cooking-stoves. At one end of the kitchen is the steward's room and pantry, and the other the surgeon's kitchen. In the rear of the general kitchen is the boiler-room, 29 by 29½ feet, containing two large boilers, a steam force-pump and fire-engine. On the left of the general kitchen is a *large Dining-room*, 150 by 30 feet, for attendants, the *Carpenter's shop*, 20 by 50 feet, and the *Chapel*, 60 by 75 feet, the latter connected with main corridor by means of a passage way. The chapel is used as a *Reading-room* by the patients during week-days, and contains a *Library* of 2400 books. In the rear of the chapel is a *Bible-class room*, 25 by 30 feet.

In the angle formed by the union of main corridor with corridor leading from chapel are the *Post-office* and *Barber shop*. To the right of the corridor connecting entrance with the administration building is the *extra-diet Kitchen*, 30 by 30 feet, containing one large London kitchener complete. The *Milk-house* and *Butcher shop* are also on the right of the corridor.

The *supply of water* is received from the Chestnut Hill water-works into four large tanks, in the second story of the administration building, capable of holding 18,000

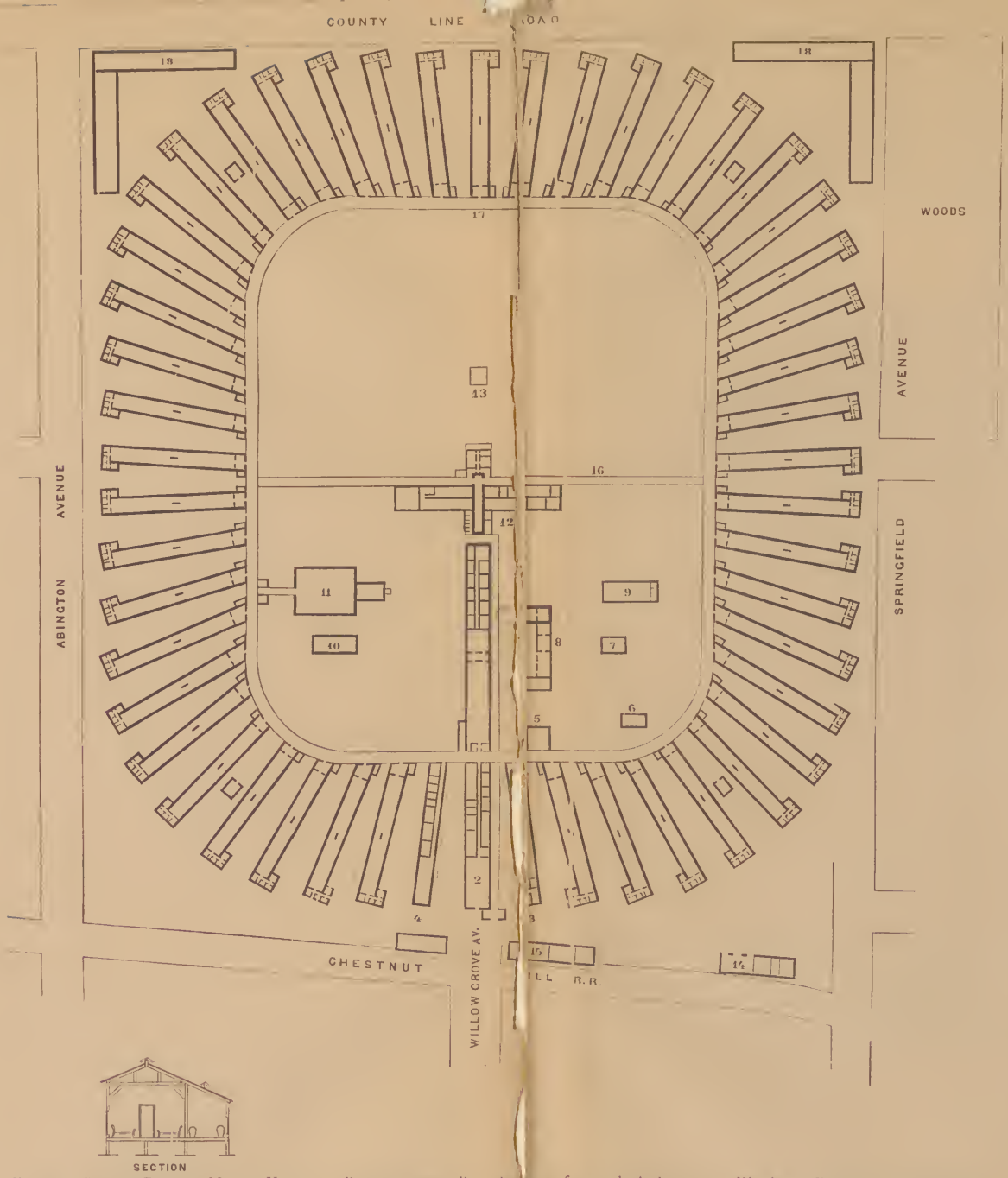


FIG. 11.—GROUND PLAN OF MOWER HOSPITAL, PHILADELPHIA, PA. Scale, 195 feet to the inch. 1 1 1 1, Wards. 2, Reception room, laundry, &c. In the building between this and 12 is the kitchen, &c. 3, Knapsack-room, band quarters, &c. 4, Store rooms, &c. 5, Operating room. 6, Butcher's shop. 7, Guard-house. 8, Boilers, coal, &c. 9, Sutler. 10, Carpenter's shop. 11, Chapel. 12, Administration building. 13, Ice-house. 14, 15, Railroad Depots. 16, 17, Corridors. 18 18, L-shaped buildings used as barracks, store-rooms, &c.

gallons each, and into two large tanks at the junction of the transverse with the main corridor, which hold 15,000 gallons each.

The *sewerage* consists of two large drains, one extending around the outside of the hospital, which is a brick culvert 20 by 30 inches in diameter, into which the water-closets, wash-rooms, and bath-rooms of the wards empty. The second runs outside of the corridor but within the enclosure, and is a drain of terra-cotta pipe 14 inches in diameter, which carries off the waste water from the scullories of the wards. Emptying into this smaller drain are others leading from the different buildings of the hospital. Both these drains unite at the southeastern extremity of the hospital, forming one large sewer, which empties its liquid contents into a creek distant from hospital half-a-mile. The solid contents of sewer are removed once every four months.

The hospital is *ventilated* by the "ridge" method, and by square holes through the sides of the wards flush with the floor. It is heated by coal stoves, and lighted by gas.

The hospital is well supplied with all necessary *apparatus for subduing* fire. The enclosure is divided into four districts, and each district and ward is connected with the administration building by means of a telegraph. In case of fire, the alarm is struck by pulling the wire in the corridor, the bell striking the number corresponding with the number of the district in which the fire exists.

There is one hose-carriage in each fire quarter, and each district is well supplied with hose, fire-buckets, fire-axes, and ladders. A well organized fire-brigade exists in the hospital, the members of which are drilled regularly three times a week.

The tanks inside of the corridor and outside within the enclosure are constantly kept filled with water.

This hospital was opened December 24, 1862, and closed November 14, 1865. During this period the movements of patients were as follows:

	Admitted.					Results.								
	Sick.	Wounded.	Total.	Returned from furlough and desertion.	Aggregate.	Returned to duty.	Mustered out.	Sent to other general hospital.	Furloughed.	Transferred to Veteran Reserve Corps.	Discharged.	Deserted.	Died of Disease.	Died of wounds.
White troops	11797	10037	21834	4457	26291	10106	1989	4878	4499	865	1937	1695	248	74
Colored troops	22	17	39	.....	39	2	1	16	.....	.....	17	.....	3	.....
Total	11819	10054	21873	4457	26330	10108	1990	4894	4499	865	1954	1695	251	74

Deducting those sent to other general hospitals as cases not terminated, and considering that the furloughed and deserted amounted to 6194, while only 4457 of these are reported as having returned, we shall have the following statistics for the *terminated cases of white troops* treated:

Total to be accounted for, excluding those sent to other hospitals, 16,956; of whom 10,106 were returned to duty, 1989 mustered out of service at the close of the war, 1737 lost by failure to return from furlough and desertion, 1937 discharged for disability, 865 transferred to the Veteran Reserve Corps, and 322 died.